Analysis of Spallation and Fission Fragment Residues for Lead Isotopes Irradiated by Protons at Energies below 1.0 GeV

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Spallation and fission residues produced by the proton irradiation of ^{206}Pb, ^{207}Pb, and ^{208}Pb targets at energies from 40 MeV up to 1 GeV have been studied recently at ITEP. These data allow testing various versions of the intranuclear cascade models widely used for simulation of spallation product yields. Main differences between codes are briefly reviewed. Modifications of the LAHET, CASCADO, and CAMO codes, that are required to reduce deviations from experimental data, are discussed.

Special attention is attracted to an improvement of the preequilibrium emission description in different codes. Recent experimental data on spectra and integral yields of light charged particles for energies below 150 MeV are used to test the selected parameters of preequilibrium emission simulation for the cascade models considered.

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